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Software Development I

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CCD Parser Project

Currently, one must obtain their medical information from a difficult to read Continuity of Care Documents (CCD). The CCD is a health standard specification developed by several healthcare vendors in order to create a set standard for healthcare data (Freeman). This specification has been vital in allowing patient information to be shared among healthcare providers nationwide. The goal of this project will be to create a system that will parse vital information from CCD files, which are written in XML, into a easily readable view.

A RESTful system will be created in order to facilitate the transfer of patient data from the source, to the patient. In the real world the source of data would be a database that is fed into by healthcare providers. Due to the nature of this being a school project, there will be some limitations on this project that would have to be overcome in order for this project to be used as a legitimate health care system.

To test and demonstrate the functionality of the system I will use watered down sample CCD files that only contain example information points such as patient ID, patient name, phone number, diagnosis, insurance provider, and insurance ID. These pieces of information are only a portion of the information on legitimate CCDs, but much of the omitted information for this project is difficult to replicate because it is so patient specific. The diagnosis information will adhere to Health Information Exchange and Interoperability (HIEI) codes (Walker). I will create

10 example CCD files to demonstrate how the system is able to parse the information into a more readable format. The program will allow a user to query the information of a specific patient based on their ID in addition to viewing all patients at once. The data from a given patient's information will be parsed and stored in a patient model to hold information for a given patient. When queried the system will return one or more of the patient models to the user in the form of a JSON object. The system will be tested using Postman (<https://getpostman.com>) to make GET calls to the repository.

Due to the constraints of information, access to patient data, and adhering to rigorous medical standards, this project would need modification in order to be useful to actual patients. The purpose of this project, however, is to build the core framework of the system in order to test its viability and allow for potential future modifications. The project aims to convert difficult to read XML CCD files into an easily readable format by parsing the information and converting confusing HIE codes into English to allow for maximum usability.

Works Cited

Freeman, George, et al. "Continuity of care." Report of a scoping exercise for the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D (NCCSDO). London: NCCSDO (2001).

Walker, Jan, et al. "The value of health care information exchange and interoperability." Health affairs 24 (2005): W5.